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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,586	03/12/2004	Edward J. Nowak	BUR920030159US1	2585
29154	7590	05/18/2005	EXAMINER	
FREDERICK W. GIBB, III MCGINN & GIBB, PLLC 2568-A RIVA ROAD SUITE 304 ANNAPOLIS, MD 21401			HU, SHOUXIANG	
			ART UNIT	PAPER NUMBER
			2811	
DATE MAILED: 05/18/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/708,586

Applicant(s)

NOWAK, EDWARD J.

Examiner

Shouxiang Hu

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12, 14 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 14 and 21-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-12, 14 and 21-28 are rejected under 35 U.S.C. 103(a) as being obvious over Yeo et al. ("Yeo"; US 2004/0195646 A1) in view of Ge et al. ("Ge"; US 2004/0195623 A1) and/or Wang et al. ("Wang"; US 6,657,223).

Yeo discloses a CMOS-type integrated circuit structure (especially in Figs. 2a and 9b), comprising: a substrate (170) having first portions and second portions, with nMOSFET (122) and pMOSFET (124) formed respectively thereon. The first portions have a first layer (110) with a first-type crystalline orientation (100) and a second layer (116) with a second-type crystalline orientation (110; see Paragraph 0037). And, the second portions do not comprise the first layer (110) with the first-type crystalline orientation (100), but do comprise the second layer (116) with the second-type crystalline orientation (110), along a region (112) of the second crystalline orientation (110).

Although Yeo does not expressly disclose that a straining layer can be formed atop the two MOSFETs and/or that a silicide layer can be formed in part of each of the source/drain regions and the gate electrodes of the two MOSFET, one ordinary skill in

the art would readily recognize that such a straining layer can be desirably formed for improving the performance of the underlying transistor(s), as evidenced in Ge (see the straining layer 44 in the cover page figure), and/or that such silicide regions are commonly formed in the art for reducing the connection resistance, as evidenced in Wang (see the silicide regions 22 and 26 in Fig. 2).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the silicide regions of Wang and/or the straining layer of Ye into the circuit structure of Yeo, so that a CMOS device with improved connection resistance and/or improved MOSFET performance would be obtained.

Regarding claims 5, 12 and 24, the substrate in Fig. 9b of Yeo is non-floating type on the right side, and floating type on the left side.

Regarding claims 21, 22 and 24, the substrate in Fig. 2a further comprises an insulator (114) separates the first layer (110) with the first-type crystalline orientation (100) from the second layer (116) with the second-type crystalline orientation (110).

### ***Response to Arguments***

Applicant's arguments filed on 2/23/05 have been fully considered but they are not persuasive.

Applicant's main arguments include: the cited prior art does not teach the recited features regarding the first and second portions. In response, it is noted that Yeo does expressly disclose such features, including that: The first portions have a first layer

(110) with a first-type crystalline orientation (100) and a second layer (116) with a second-type crystalline orientation (110); and the second portions do not comprise the first layer (110) with the first-type crystalline orientation (100), but do comprise the second layer (116) with the second-type crystalline orientation (110), since Yeo expressly teaches that the layer 116 therein can have a (110) orientation (see Paragraph 0037).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

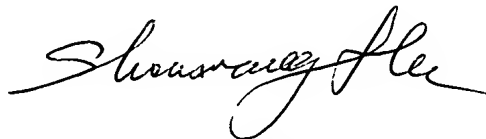
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH  
May 12, 2005

A handwritten signature in black ink, appearing to read 'Shouxiang Hu', written in a cursive style.

**SHOUXIANG HU  
PRIMARY EXAMINER**